

News Briefs	2	Capital Gains	3
Special Events Calendar	2	Letters, Retirees	4
Service Awards	2	Passings, Classifieds	4

Team X notes milestone

Advanced Projects
Design Team
reaches 500 studies

By Mark Whalen

Team X members
collaborate in the
Project Design Center.

The Advanced Projects Design Team started its work in 1995 under Spartan conditions. Created out of the need for JPL to keep up with its increasing number of mission studies in the 1990s, the team that was in on the advent of concurrent engineering didn't even have computers in its work room at the outset.



Photos by Dutch Slagter / JPL Photo Lab

Once it got going and proved its worthiness over the years to follow, however, there's been no stopping Team X, as it has come to be known. Now equipped with networked workstations, teleconferencing capabilities, technical support and more, the team recently celebrated its 500th study in support of pre-phase A mission development.

Team X enables a mission's principal investigators and their design teams to effectively plan new mission proposals. Work sessions, held in the Project Design Center in Building 301, feature staffers representing the various elements of a mission: navigation, power, structure, attitude control, propulsion, ground systems, etc.

"What we've done is evolve a culture that supports the dynamic development of requirements, designs and costs of conceptual missions in a week, and that provides the best possible return on investment," noted Team X leader Bob Oberto.

"We discuss and identify problems, and make corrections in real time, which gives the entire team a better understanding of the technical issues driving

the design," Oberto added. "This provides a better-optimized mission, in terms of cost, performance and risk, and shows scientists and technologists the limits and constraints they'll have to deal with."

"Team X was an immediate success," said former team member Louise Hamlin of Section 311D. "Customers found they could come to the team with almost any sort of mission and walk away with a design, all at about 10% of the cost of a traditional mission study."

Team X members are nominated by the technical divisions, and now number more than 100, Oberto said. The studies are thorough but quick, most of them completed in just three three-hour sessions.

Many of the studies were critical to the selection or solidification of JPL missions approved for development, including CloudSat, Dawn, Kepler, Aquarius and several Mars Scout missions, to name a few. The team has also conducted studies for other NASA centers as well as for international partners, including ideas for a Venus lander and a Europa ocean mission.

Steve Prusha, manager of the Strategic Systems Technology Programs Office, has utilized Team X's



services a number of times over the years to test the impact of various technologies on mission scenarios, and is definitely a satisfied customer.

"They have done a stellar job," he said. "I can run an end-to-end study in one week, a capability that is unique throughout the agency."

Prusha complimented the team's "agility and nimbleness, the ability to go from a Venus lander study one week, to an observatory the next week, to an Earth mission the week after that."

Team X and its work at the Project Design Center have been emulated at several other NASA centers and in the aerospace industry, Oberto said.

The approval for the Team X concept was signed in 1994 by Space and Earth Science Programs Director Dr. Charles Elachi, who is now the Lab director.

"Team X is now part of the JPL lexicon," Elachi said at a commemoration last week. "Everyone now knows what Team X means, not only within NASA but in the broader scientific community as well. Team X has significantly exceeded our expectations."

Positive news on JPL's report card from NASA

JPL's scores in its fiscal year 2002 Final Performance Evaluation (also known as the NASA report card) resulted in improvement in two of three categories.

The annual evaluation of the Laboratory's performance is used to determine the amount of an award fee to paid to Caltech. In turn, some of that money is given to JPL for use at its discretion.

"NASA strongly commended our missions, our progress in financial and institutional management and the Lab's innovative leadership in education and outreach," noted Deputy Director Eugene Tattini. "Cost growth in some of our missions affected our otherwise strong programmatic efforts. The Programmatic score is down slightly, but both Institutional Management and Outreach attained the highest scores to date."

In the Programmatic category (worth 65% of the overall score), JPL received a score of 88 out of a possible 100, three points lower than in FY '01. In Institutional Management (25%), the Laboratory received 88 points, three more than the year before. Outreach (10%) scored 96, one point higher than last year.

The Lab's weighted total score of 88.8 was about a point lower than in FY '01.

The complete Final FY 2002 Performance Evaluation Report is available on the Director's Office home page at <http://ood> under "Information of General Interest: 2002."

Speakers, panel highlight King observance

Following the Jan. 20 observance of the birth of Dr. Martin Luther King Jr., a JPL holiday, the Laboratory will commemorate the memory of the civil rights leader with two guest speakers and a panel discussion.

On Tuesday, Jan. 21, Dr. Julian Earls, deputy director of NASA's Glenn Research Center, will speak at 11:30 a.m. in von Kármán Auditorium.

On Wednesday, at the same time and location, a panel discussion featuring seven JPL African American Ph.D.s will be held. The theme will be "Achieving the Dream"—what it means, major barriers and enablers for the panelists, and advice to up-and-coming Black Americans interested in math and science.

The panelists will be Dr. Claudia Alexander, project scientist of the U.S. portion of the Rosetta Project; Dr. Ayanna Howard of Section 3484, who works in telerobotics research and applications; Dr. Deborah Jackson, a member of the Quantum Computing Technologies Group, Section

3676; Dr. Eni Njoku of Section 3242, project scientist for Hydros, an alternate Earth Space Science Pathfinder mission; Dr. Virgil Shields, a senior member of the engineering staff in Section 3464; Dr. Edward Tunstel of Section 3483, mobility and navigation system engineer for the 2003 Mars Exploration Rovers Project; and Dr. Keith Wilson, Section 331D, a senior telecommunications engineer specializing in optical communications.



Dr. Martin Luther King Jr.

The events will conclude on Friday, Jan. 24 as Pasadena Unified School District Superintendent Dr. Percy Clark will speak at 11:30 a.m. in von Kármán Auditorium.

News Briefs

SeaWinds detects Antarctic ice melt

An international research team using data from JPL's SeaWinds instrument aboard the Quick Scatterometer spacecraft has detected the earliest yet recorded pre-summer melting event in a section of Antarctica's Larsen Ice Shelf.

This huge, nearly 200-meter-thick (656 foot) plate of glacier-fed floating ice, which in the late 1980s was about as large as Indiana, experienced dramatic disintegration events beginning in 1995 that have reduced its area by nearly 10 percent, or more than 2 trillion tons of ice.

Researchers used near real time Quick Scatterometer data to document a rapid, extensive melting of the Larsen C ice shelf in Antarctica's Weddell Sea from Oct. 27-29, 2002. The melting, which extended to 68 degrees south, was triggered by a mid-latitude cyclone that delivered warm air to the region. The same storm is believed to have also caused a noticeable recession in the sea-ice margin to the west of the Antarctic Peninsula. Images are available at <http://photojournal.jpl.nasa.gov>.

Halpern takes White House post

Senior Research Scientist DR. DAVID HALPERN has begun an assignment at the Executive Office of the President, Office of Science and Technology Policy, commonly known as the White House Science Office.

Halpern works closely with the office's associate director for science on the national agenda related to climate change science and technology and on oceanographic programs. He also works with the office's director, who is President Bush's science adviser; interacts with organizations involved in climate and in oceanography; and is a member of several interagency teams.

Prior to starting this assignment, Halpern was manager of the Climate Variability Program in the Earth Science and Technology Directorate. His ongoing JPL research uses satellite data to improve prediction of the onset of summer monsoon rainfall in India and to understand the mechanisms of El Niño, coastal upwelling and other climate phenomena.

Peltzer receives AGU honor

JPL geophysicist DR. GILLES PELTZER received the William Bowie Medal, the highest honor bestowed by the American Geophysical Union, at the organization's fall meeting.

The annual Bowie medal acknowledges an individual for outstanding contributions to fundamental geophysics and for unselfish cooperation in research, one of the guiding principles of the organization.

Blood drive set for February

The next JPL/Red Cross blood drive will be held in von Kármán Auditorium Feb. 11 from 10 a.m. to 4

p.m. and Feb. 12, 7 a.m. to 1 p.m.

Advance sign-up sheets will be available at Occupational Health Services, Building 310-202, prior to the blood drive. You may go directly to von Kármán at your preferred time if you were not able to sign up ahead of time. To sign up now, visit http://eis/medical/blood_form.html.

The Red Cross is experiencing a critical shortage of all types of blood, and is appealing to all eligible donors.

During the two-day drive in November, the Red Cross collected 152 pints of blood. Occupational Health Services notes that 456 lives will benefit from that blood drive.

For further information, log on to <http://www.redcross.org/services/biomed/blood/supply/tse.html>.

Weight Watchers program available

A new session of the Weight Watchers program on Lab is now underway. All JPL employees and contractors are welcome to join.

You can join at any time during a series. Those who join after the Jan. 21 meeting are required to pay \$11 for each remaining meeting at the time they enroll. Payments can be made by cash, check or credit card.

Meetings are held Tuesdays from 11:30 a.m. to 12:30 p.m. in the JPL Wellness Place, 167-111. This series runs weekly through April 29, 2003.

For more information or questions, call Laurie Lincoln at ext. 4-1612 or visit <http://eis.jpl.nasa.gov/hr/esr/wellness/wwatchers.htm>.

Women's Club sponsors events

The Caltech Women's Club is offering membership to JPL staff. Among the club's activities are Preschool Playgroup and Wednesdays in the Park, both held from 10 a.m. to noon at Tournament Park.

The playgroup, held on Tuesdays, is for children ages 1-4 and offers crafts, song and story time, free play, and exploratory learning, and a supportive environment for parents and caregivers to observe and interact with their child. For more information, call JULIA KENNEFICK at (818) 792-7808.

Wednesdays in the Park offers camaraderie for the grownups and playtime for infants thru school-age children. It is a great way to meet people and share information about services and activities available for families. For more information, call IRENE LOCHER at (818) 584-5828.

Women invited to join singers

Women are invited to join the Arroyo Singers, a Pasadena-based chorus that rehearses 7:15 p.m. Tuesdays at Caltech.

Repertoire is varied, and no voice training is required. Members are planning for a spring concert. For information, call (323) 256-5332 or (626) 798-5855.

30 years

Charles Acton Jr., Bonnie Cantrell, Edward Contreras, Larry Hovland, Patti Jansma, Michael Keesey, Robert Kinkade, Kenneth Klaasen, James Lesh, Thedra McMillian, Donald Moore, Charles Porter, Julie Selders.

25 years

Barbara Amago, Izeller Cureton-Snead, Louis D'Amario, Karen Dean, Rizalina Gordon, Carl Guernsey, Stuart Kerridge, Robert Klotz, Gloria Lang, Jean Lorre, Michael Marcucci, David Maynard, Patricia McGuire, Brian Muirhead, Glenn Orton, Charles Radics, Ralph Ridley, Leigh Rosenberg, Casper Sagoian, Elliott Sigman, Mahadeva Sinha, Ernest Stone, Michail Zak, Wayne Zimmerman.

Special Events Calendar

Ongoing Support Groups

Alcoholics Anonymous—Meetings are available. Call the Employee Assistance Program at ext. 4-3680 for time and location.

Caregivers Support Group—Meets the first Thursday of the month at noon in Building 167-111 (The Wellness Place). For more information, call the Employee Assistance Program at ext. 4-3680.

Codependents Anonymous—Meeting at noon every Wednesday. Call Occupational Health Services at ext. 4-3319.

Gay, Lesbian and Bisexual Group—Meets the first and third Fridays of the month at noon in Building 111-117. Call the Employee Assistance Program at ext. 4-3680 or Randy Herrera at ext. 3-0664.

Working Parents Support Group—Meets the third Thursday of the month at noon in Building 167-111 (The Wellness Place). For more information, call the Employee Assistance Program at ext. 4-3680.

Friday, January 17

Caltech Women's Club—A Welcoming Coffee will be held from 4:30 to 6 p.m. at Rathskeller, located on campus in the Athenaeum. For more information, call Carol Anderson at (818) 790-8175.

“Do Aliens Cause Global Warming?”—Renowned author Michael Crichton will deliver a free lecture at 8 p.m. in Beckman Auditorium. For more information, call (626) 395-4652.



Michael Crichton

Sunday, January 19

Chamber Music—The Emerson String Quartet will perform at 3:30 p.m. in Beckman Auditorium. Tickets are \$29, \$25, \$21 and \$17. Call (626) 395-4652.

“Who is Science Writing For?”—Author Margaret Wertheim will give this Skeptics Society-sponsored lecture at 2 p.m. in Caltech's Baxter Hall. Donations: \$5 for members, \$8 for nonmembers, Caltech/JPL community free.

Tuesday, January 21



Dr. Julian Earls

Martin Luther King Celebration—Dr. Julian Earls, deputy director of NASA's Glenn Research Center, will speak at 11:30 a.m. in von Kármán Auditorium.

Wednesday, January 22

Martin Luther King Celebration—A panel discussion featuring seven JPL African American Ph.D.s will be held at 11:30 a.m. in von Kármán Auditorium. See page 1 article for a list of the panelists.

JPL Toastmasters Club—Meeting at 5 p.m. in the 167 conference room. Call Roger Carlson at ext. 4-2295 for information.

Thursday, January 23

Caltech Architectural Tour—The Caltech Women's Club presents this free service, which is open to the public. The tour begins at 11 a.m. and lasts about 1 1/2 hours. Meet at the Athenaeum front hall, 551 S. Hill St. For reservations, call Susan Lee at (626) 395-6327.

Thu.-Fri., Jan. 23-24

Von Kármán Lecture Series—Dr. Andrea Donnellan, deputy manager,



Earth and Space Sciences Division, will present “Using Space Technology to Understand Earthquakes” at 7 p.m. Thursday in von Kármán Auditorium and Friday in Pasadena City College's

Vosloh Forum, 1570 E. Colorado Blvd. Thursday's lecture will be webcast at <http://www.jpl.nasa.gov/events/lectures/jan03.html>. For more information, call Public Services at ext. 4-0112.

Friday, January 24

Martin Luther King Celebration—Pasadena Unified School District Superintendent Dr. Percy Clark will speak at 11:30 a.m. in von Kármán Auditorium.



Dr. Percy Clark

Caltech Student Chamber Ensembles—A free concert featuring music by C.P.E. Bach, Mendelssohn, Milhaud and Schubert's “Trout” Quintet will be performed at 8 p.m. in Dabney Lounge.

Saturday, January 25

Caltech Jazz Bands—A free concert featuring the music of Count Basie will be presented at 8 p.m. in Beckman Auditorium. For more information, call (626) 395-4652.

Voyager Documentary—JPL's longest-running mission is the subject of a two-hour documentary, “Cosmic Journey: The Voyager Interstellar Mission and Message,” to be broadcast at 1 p.m. on the A&E network.

Sunday, January 26

Super Bowl Alternative Concert—Trios by Beethoven, Mendelssohn, Debussy and Peter Schickele, as well as music for piano duet, will be offered at 3:30 p.m. in Caltech's Dabney Lounge. For more information, call (626) 395-4652.

Tuesday, January 28

Mr. Smith Goes to Washington—A part of Caltech's Frank Capra Film Festival, this 1939 classic will be shown at 7:30 p.m. in Beckman Auditorium. A panel discussion will immediately follow the screening. Admission is free.

Wednesday, January 29

“Fuel Cells: Powering Progress in the 21st Century”—Caltech materials science associate professor Dr. Sossina Haile will lecture at 8 p.m. in Beckman Auditorium. Admission is free.

Volunteer Professionals for Medical Advancement—A board meeting will be held at 10:30 a.m. and a technical review at 1:15 p.m. at the Caltech Credit Union, 528 Foothill Blvd., La Cañada. The group seeks a volunteer mechanical engineer to modify the design of a sled used in a magnetic radiation information unit of a local hospital. Other engineers, managers and support volunteers are needed in all fields. For more information, call Herman Bank, (626) 791-3748.

Thursday, January 30

JPL Golf Club—Meeting at noon in Building 306-302.

JPL Stories—Retired JPL engineer Herman Bank will present “55 Years at JPL (Cheers and Tears),” at 4 p.m. in the Library, Building 111-104. For information about the story series, call Teresa Bailey, ext. 4-9233.

EMPLOYEE SERVICES & RECOGNITION

Service awards bestowed

For the period from October 2002 through January 2003, the following JPL recipients celebrating 25 or more years of service were invited to attend a luncheon and ceremony in their honor on Jan. 14.

50 years

Jay Bondi, Carl Sauer Jr.

45 years

Charles Kurzweil, Robert Toomath.

40 years

Thomas Gavin, David Griffith, Robert Hamilton, James Kelley, Donald Palmieri, Rodney Stanley, James Young.

35 years

Adeline Carr, George Frascchetti, Fred Soltis, Carolyn Stevens, Gary Stevens, John Wellman.

here's how Washington, D.C. works: By

February, an initial budget request by

the Bush Administration for fiscal year

2004 will begin to make its way through

the laborious process for which the cap-

ital is famous. Of course, even though

the federal government is now three

months into fiscal year 2003, the current

budget has not yet been signed into law.

To further illustrate the level of JPL's support in Congress, O'Toole mentioned that Rep. Nancy Pelosi (D-San Francisco), the new House minority leader, is very familiar with JPL, and has visited Caltech several times.

As part of the redistricting—in which California gained a seat in the House for a total of 53—traditional Republican strongholds La Crescenta and La Cañada are now in Dreier's district. In turn, Schiff's

The result is a more hard-line stance and more party-line votes. "Over the last few elections, the House has become more polarized and a bit more acrimonious," O'Toole said.

In the California House delegation, 20 are Republican, 33 are Democrat (including one new seat.). In addition to the breakdown along party lines, "California doesn't vote as one block," O'Toole observed. "Northern and Southern California don't often have a lot of interests in common."

No changes are expected for the leadership of the Appropriations Committee of the Republican-led

Capital Gains

By Mark Whalen



Photo by Bob Brown / JPL Photolab

NASA, AS WELL AS MANY OTHER FEDERAL agencies, is now operating under a continuing resolution; that is, we're all able to do our work as long as we do not spend at a rate greater than last year's rate of spending.

This scenario is not at all uncommon, explained Dr. Richard O'Toole, manager of the Legislative and International Affairs Office, during a von Kármán Auditorium talk on Dec. 9. He explained the inner workings of the budget cycle and discussed the impacts of November's midterm elections.

NASA's budget is allocated as part of a package that includes the Veterans Administration, Department of Housing and Urban Development, and other independent agencies.

"Of the 13 appropriations bills submitted for approval for FY '03, only two have been approved," O'Toole said. "I expect that appropriations subcommittees will have their conference during the month of January in order to complete the bill by the end of the month. The continuing resolution is now in effect through Jan. 28 and the goal is to complete all the appropriations bills prior to the President's budget address for FY '04 on Feb. 3."

JPL has a new congressman, O'Toole noted. Last month, voters overwhelmingly reelected Democrat Adam Schiff (61%) and Republican David Dreier (63%). But due to redistricting, JPL is now in Dreier's district, while Caltech remains in Schiff's district.

"This is the best possible outcome for JPL," O'Toole said. "Congressman Schiff has supported JPL extremely well, and since he retains Caltech, he won't forget about us."

Dreier, in his 12th term, is chair of the House Rules Committee. Dreier has also gone to bat for the Lab numerous times, noted O'Toole. "In fact, he came by and showed his support during the search for Mars Polar Lander in late 1999."

new geographic boundaries count more traditional Democratic voters. "This will be to the advantage of these two Congressman for the next election," O'Toole said, "following a pattern that has emerged throughout the state in redistricting following the 2000 census."

Nationwide, there were very few competitive Congressional races in November, when the GOP gained a 24-vote edge in the House—229–205—"a fairly significant margin," O'Toole noted. There were only four races out of 53 in California where the winner had a vote percentage less than 60%—other races had even higher margins of victory.

It helps to be an incumbent—97% of House incumbents nationwide were reelected. Throughout all of the 435 districts that make up the House, only

"This is the best possible outcome for JPL. Congressman Schiff has supported JPL extremely well, and since he retains Caltech, he won't forget about us."

— Dr. Richard O'Toole, on the reelection of Congressmen Adam Schiff and David Dreier.

20 races resulted in victories for non-incumbent and some of these were "open seats" where no incumbent was running.

"Wherever President Bush showed up to campaign, his presence was able to move 20 to 30 percent of the undecided vote," noted Jeff Lawrence, former NASA associate administrator for Legislative Affairs, who was a guest at the O'Toole talk. "The Democrats couldn't counter-balance."

"In the House, majority rules," O'Toole said. "Again, due to redistricting, GOP can operate with more rigidity and party discipline; all that is needed is a 218 to 217 vote to pass legislation."

House. As for the Senate, the new Appropriations Subcommittee chair is Rep. Chris Bond (R-Mo.). The former chair, Rep. Barbara Mikulski (D-Md.), is now the ranking minority member of the sub-committee. Even with this new leadership, "Don't expect a lot of changes," O'Toole said. "Sen. Mikulski will be taking the lead on NASA as before."

The Senate now counts 51 Republicans, 48 Democrats and one independent. This is not expected to have a huge impact on NASA, O'Toole said. "The three-vote margin now seen in the Senate isn't worth as much as the larger majority enjoyed by Republicans in the House," he said, "because it takes 60 votes in the Senate to bring legislation to a vote on the floor."

O'Toole noted the top issues that will be tackled by the 108th Congress—and NASA isn't among them. "The main issue will be homeland security," he said. "Other priorities will be further tax cuts, prescription drug benefits, and free trade."

O'Toole termed as "winners" the areas of defense, health and education, with "losers" as "everything else." We're not a priority," he said, but "we are also not a target for cutting." O'Toole noted that, "the space program was not even mentioned in the last presidential election."

When it comes to allocating NASA's budgetary resources, it's all relative. Maryland, for instance, receives by far the most per capita in government NASA funding than California, mostly because JPL's FY '03 budget of \$1.4 billion is "lost in the noise of the economy" in California, where it represents only 1/10 of 1 percent of the economy. In contrast, Marshall Space Flight Center's budget represents about 2% of Alabama's economy.

When the FY '03 budget process is completed, O'Toole expects the NASA budget to be about \$15.3 billion. But budget planners must also deal with the growth of "earmarks," projects of local interest such as science centers, libraries, etc., that are not authorized by a policy committee but are funded as additional programs in the appropriations process.

Often, these projects have little or nothing to do with NASA projects or needs, but the agency must find a way to fund them. "They're nice for the district," said O'Toole, but it's difficult for agencies to fund these programs."

O'Toole expects that the NASA budget for FY03 could total \$15.3 billion after additions for earmarks, but that the new earmarked programs will leave NASA with a \$200 million shortfall in funding. "We're hoping our budget increase will stay above inflation for the out-years beyond 2003," he said.



Classified ads will be available the day before Universe is published at

<http://dailyplanet>

Ad deadline extended

Due to the Jan. 20 holiday observing the birthday of Dr. Martin Luther King Jr., the Universe ad deadline has been extended to Tuesday, Jan. 21 at 2 p.m.

View this and previous issues of Universe at <http://universe.jpl.nasa.gov>

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Notice to Advertisers
Advertising is available for JPL and Caltech employees, contractors and retirees and their families. No more than two ads of up to 60 words each will be published for each advertiser. Items may be combined within one submission. Ads must be submitted on ad cards, available at the JPL Store and the Universe office, Bldg. 111-B29C, or via e-mail to universe@jpl.nasa.gov. Ads are due at 2 p.m. on the Monday after publication for the following issue.

All housing and vehicle advertisements require that the qualifying person(s) placing the ad be listed as an owner on the ownership documents.



Photo by Bob Brown / JPL Photo Lab

Letters

We would like to thank our friends and co-workers and the ERC for the kindness expressed at the recent passing of Elaine's father. We were very touched by your comforting words and thoughtful cards. Also, thank you for the beautiful plant.

Harry and Elaine Woo

Thank you for the beautiful plant sent to my home in remembrance of the demise of my mother. It is a living memorial of your kindness and of my mother's life.

Edwin Kan

Passings

PETER LINDLEY, 80, retired member of the technical staff in the former Section 368, died of pancreatic cancer Dec. 17. Lindley worked at the Lab from 1960-87. He is survived by his wife, Jean, daughter Jenni, son Bob and four grandchildren.

Retirees

The following JPL employees retired in January: Judith Hoepfner, 18 years, Section 902; Eugene Pastor, 14 years, Section 351; Donna Jones, 11 years, Section 701.

Classifieds

For Sale

AQUARIUM, 100 gallon, (60 x 18 x 20") SeaClear System II acrylic, blue background with 4 lights (2 blue, 2 white), black stand with rounded corners, CPR Bak-Pak 2 protein skimmer, \$600. 626/578-9720, eve.

BACKPACK, aluminum frame, \$40. 395-6804, lv. msg.

BASEBALL TICKETS, season for Anaheim Angels, \$425 for 2 field level seats (10 games). 626/966-3538.

BOOTS for snowboarder, Airwalk Ridge women's, w/Thinsulate, size USA, black, brand new, never been worn, \$25. 550-7555, Rob. BIKE RACK, Rhode Gear, \$45; CAR AUDIO: Kicker Impulse 352xi stereo power amp and two 8" Kicker Impulse sub woofer speakers mounted in box, \$175. 472-9173, James.

BUNK BED, Ikea, with mattress, \$200. 395-6804, lv. msg.

CHAIRS, 4, oak, straight backs, rush seats need replacing, best offer. 626/578-0599, Allan Klumpp.

CLOCK, Mauthe wall; greatest Westminster chimes; clock OK, chimes need fix; \$50. 909/593-4046.

COFFEE MAKERS, Krups 10-cups, white/gray, like new, \$40/obo; Braun 10-cups, white/black, like new, \$30 obo. 626/791-6101.

COFFEE TABLE and end table, wood, contemporary design, medium color stain, \$50 for both; PANT & TUNIC SETS, women's 1X velour, Susan Graver, worn only 1 time, \$15/ea. or 2 for \$25. 246-3331, before 9 p.m.

COMPUTER, 2 Dell Pentium XPS 500s, 6.4 GB HD, 384MB RAM, 32MB Diamond Viper770D video card, 100MB Zip, CD-ROM, MS Office 2000; \$250. 626/584-0860, Donna.

COMPUTER, PowerMac G3, 300 MHz, 192 MB, 8 GB, AV, Zip, CD-ROM, 2nd video card (Xclaim 3D Rage Pro 8 MB), to support another monitor, Dell Ultrascan 1000 HS Triniton color monitor (15.9" viewable), external USRobotics 56K modem, new unopened Claris software, Wacom graphics pad, Microtek Scan-Maker E6 SCSI scanner, \$400. 661/297-8533. DESK & CHAIR, antique mahogany, \$500. 248-8853.

DINETTE TABLE SET, 30" x 47," oak, 2 beige upholstered oak chairs and 1 beige upholstered oak bench seat, seats 4, vg cond., \$250; SWIVEL/ROCKING CHAIR, bamboo framed, beige, upholstered, good cond., \$50; GAMES, 8 orig. Intellivision cartridges, \$20 for all. 626/359-7666.

EDUCATIONAL GAME, Geo Safari, with 7 card packs of (approx.) 18 interactive games each, includes: basics (animals, insects, nature, ...), geography, math, reading, English, getting ready for school, ages 4-7, vg cond., \$45. 626/303-1927.

EXERCISE BIKE, Tunturi Executive Ergometer, \$50/obo. 897-1203.

EXERCISE TAPES, only used once; Billy Blanks Tae Bo, \$10/each; Line Dancing, \$5; Weight Training for Women with Cathe-Abs/Legs, \$5; Arms, \$5. 248-6062, Elizabeth.

EXERCISER, NordicTrak Achiever X country, original leather, wood and steel model, good cond., orig. cost \$1,400, sell for \$125;

WASHER AND DRYER, Sears Kenmore stackable, washer needs a new timer, dryer runs well, 110V, color harvest gold; shabby chic from the '70s with orig. paint, p/u in Glendale; \$75 for both. 246-3331, before 9 p.m.

EXERCISER, VitaMaster ski machine with electronic console, \$30. 626/836-4767.

HOCKEY TICKETS, 2, L.A. Kings, Staples Center lower bowl, \$100 for both. 626/852-0821.

KIDS' ITEMS: Little Tikes Cozy Car with a canopy and removable push handle, was \$60, now \$30; Little Tikes Swing Along Climber with swing, slide, and steering wheel, was \$120, now \$75; Safety 1st booster seat, was \$ 20, now \$10; assorted soft plush toys for car seats and strollers, were \$16/each, now \$8/ea.; all items in exc. cond. 626/850-4378.

KITCHEN APPLIANCES: Farberware T4800 conv/broil oven, black, \$150; Goldstar ER-3010 microwave oven, Little Cookee, white, \$20; Proctor-Silex Cool-Touch xtra-wide slot toaster, white, \$15; Osterizer Contemporary Classics blender, \$40. 626/744-9064.

LAMP, Southwestern, w/shade, \$20; CAR CABLES/CHAINS, never used, \$20; CAR WAXER, professional, \$20. 626/462-9457.

LASER PRINTER/copier/fax/scanner, HP 3100, 1998, good, best offer. 626/795-3859, Allan Klumpp.

MATTRESS, Cal-King, gd. cond., \$90. 626/850-4378.

MINI-DISC PLAYER with record capability, Sony, remote, anti-skip, 10 blank discs, great sound, tiny, mint condition, \$99/obo. 687-8627, Alberto.

MOUNTAIN BIKE, 2002 Diamond Back, model Sorrento, 21 speed, Shimano components, silver, like new, \$175/obo. 353-4872, Mike.

PHONICS GAME & training, contains videos, cassettes, manuals; a comprehensive course for children through adult, exc. cond., paid \$200, sell for \$100. 626/303-1927.

PRINTER, new, unopened Epson Stylus C42UX USB inkjet for PC or Mac, 2880 x 720 optimized dpi, prints black text at up to 12 ppm and color graphics at up to 5.5 ppm, \$50. 661/297-8533, Bob.

REFRIGERATOR, GE, 22 cu.ft., side-by-side, white, good cond., \$150. 248-9418.

SCREEN, 3-panel wicker, natural rattan, 72" H x 54" W, \$60; TYPEWRITER, Smith Corona electric, with Word Processor Office System, \$50. 352-3112.

SKI CLOTHES: all new; women's powder suit, sz. 10, turquoise/magenta; women's bibs, sz. M, black; women's X-C knickers, grey wool, sz. 12R; rainpants, unisex, sz. M, blue. 952-0474, lv msg.

TRANSCRIBER, Sanyo; old but works fine; you'll need today's earphones; \$45. 909/593-4046.

TREES, Red Banana plant, 5' tall, \$60/obo Fish tail, 6' tall, \$80/obo; Ficus, braided, in 30" plastic pot >10' tall, \$250/obo; ceramic bowl, gray, 2' diameter with planted geraniums, \$40 obo. 626/791-6101.

TV, 16" screen Hitachi, exc. cond., w/remote control, wood frame, \$90. 626/794-4921.

TV, 25" color diagonal Sharp Lynitron, gd. cond., needs antenna, \$60. 626/447-1095.

TV, 32" color Toshiba, plus stand, less than 4 yrs. old, exc. cond., \$300/obo. 661/297-5234.

VANITY DRESSING TABLE, antique, mirror and 4 small drawers, Art Deco circa 1930s, great cond., \$300; unique honey oak dressing table, pedestal type, dual circular mirrors with solid brass appointments, circa 1940s, great cond., must see, \$275. 368-9520.

WASHER and DRYER, \$60 each. 626/584-1164.

WHEEL HUB, heavy, for big wagon but not used as such; 12" hi, 7" wide; wired as a lamp: light comes thru open spoke slats; hand made from dark solid oak; \$50. 909/593-4046.

Vehicles/Accessories

AUTO TEST SET, electronic, incl. analog ignition oscilloscope that displays primary/secondary parade and raster wave-forms plus a full function analyzer with timing light all on a chrome roll-away cart, \$500. 249-6071.

'00 BMW 328i, 6 cyl. automatic, 20,850 mi., equipped w/sports package/Harman-Kardon stereo, \$29,900. 626/510-9152.

CABLE CHAINS, 2 sets, new; 1 set never used; 1 used < 2 miles; fits variety of tires, call for

sizes; \$25/ea./obo. 353-6369, eves.

'95 DODGE Ram pickup, black, lifted, exhaust system, CD stereo, tinted windows, custom tires, euro-lights, bed liner, 103K miles, \$11,000/obo. 249-9747.

'99 FORD Taurus wagon, metallic silver, great spacious family car, 12-valve V6 3.0 L engine, 80K miles, exc. cond., \$6,900/obo. 626/584-1164.

'68 FORD Mustang hardtop, 289 V8, auto, factory a/c, p/s, am radio, orig. owner, orig. candy apple red paint, mint cond., runs great, Calif. car - no rust, owner's manual, factory invoice/window sticker/sales brochure, \$10,000. 248-6489.

GREASE/GEAR MANUAL PUMP with 5-gal. container, incl. 6 ft. of 3/8 high pressure hose with standard coupler; delivers grease at high volume or high pressure; exc. cond., \$50; BRAKE BLEEDER KIT, for most brake systems; built-in heavy duty safety valve & pressure regulator gage; 1.5-gal. capacity; includes adapters for Ford, GM, VW, Honda; exc. cond.; sells new for over \$400, sell for \$115. 249-6071.

'97 HONDA Valkyrie motorcycle, exc. cond., extra chrome, garage kept, purple/white, studded seats, leather bags, many accessories, 23K miles, see to appreciate, \$7,900. 957-2852.

'94 HONDA Nighthawk 250cc, 2,500 miles, exc. cond., kept in garage, \$1,500. 562/693-1136.

'94 INFINITI J-30, clean, well-maintained, good condition, all power, sunroof, leather, loaded, \$7,900/obo. 661/424-1420.

'91 NISSAN 300ZX Twin Turbo coupe, beautiful vehicle, automatic, leather, power seat, T-bar roof, rear spoiler, prem. wheels, prem. sound, AM/FM stereo/cass., CD; high-performance 300+ HP machine in exc. mechanical cond. thru regular dealer service, records avail.; Blue Book valuation of \$7,700 obo. 626/447-2404.

'90 PLYMOUTH Voyager LE, 7-passenger minivan, silver, 159K, V6, new Jensen CD/cass/am/fm, HD susp., rebtl AT, PS/PB/PW/PDL/PD seat, luggage rack, sunscreen glass, well maintained, orig. owner, records, Carfax rpt., \$3,000/obo. 768-5195.

SNOW CHAINS (traction cables) for tire sizes P135, P145, P155, P165, and P185, \$20. 626/836-4767.

'02 TOYOTA Camry DLX, 6K miles, 4 dr., 4 cyl., front side & curttn. airbags, ABS, sunroof, 6 CD chgr, a/c, \$20,600/obo. 626/794-0073.

'00 TOYOTA Celica GTS, silver, black leather int., automatic & manual tran.,sunroof, loaded, exc. cond., 53,010 miles, \$15,900/obo. 957-1427.

'88 TOYOTA Camry LE, 135,000 miles, gd. cond., \$1,600/obo. 731-0470.

'86 TOYOTA Celica GTS liftback, one owner, vg cond., a/c, power doors/windows, \$1,700. 790-8007.

'83 TOYOTA Supra, 25K miles on rebuilt engine, 5-spd. manual, am/fm/cass., very reliable, clean inside/out, shiny original paint, new tires, \$2,100. 957-2852.

'95 VOLVO, 850 GLT wagon, 92,000 miles, exc. cond., \$9,500. 248-8853.

Free

COMPUTER, Power Mac 7100/80 with 13" monitor, keyboard, mouse, and 28K modem, works fine. 790-8523.

Lost & Found

Found: Silver frog figurine with gold crown, in room 264-531. Ext. 4-8998.

Wanted

ADULT CARE for two boys, ages 9 and 12, 7-8:30 a.m in Glendora; ensure they are ready for school and drive to school; req.: car, driver license, insurance and reference; pay \$8 to \$10 depending on exper. 626/963-6712, Sahar.

HOME IN LA CANADA School District for JPL Research Associate and family, 2 quiet children, non smoking, no pets; possibly furnished, arriving in Jan. 2003 for 9 mo. - 1 year. mveli@corona.jpl.nasa.gov, Marco Velli.

MATH TUTOR, high-school level classes (geom-etry, algebra, SAT math, etc), eves and/or week-ends, \$15/hr. 888/784-1639, leave msg. for David.

RIDESHARE with Santa Clarita resident, full or part time OK. 661/424-1420, ext. 4-0880.

SPACE INFORMATION/memorabilia from U.S. & other countries, past & present. 790-8523, Marc Rayman.

VOLLEYBALL PLAYERS, coed, no beginners please, every Tues. nt. 8-10:00 at Eagle Rock High School, \$3/nt. 956-1744, Barbara.

For Rent

ALTADENA house, 1 mile from JPL, 2 bd., beau-tiful hardwood floors, wood-burning fire-place, French doors, remodeled kitchen and bathroom, dishwasher, a/c, washer/dryer, gardener included, detached 2-car garage, gat-

Rover review

During their visit to JPL last month, several

NASA astronauts viewed the Mars Exploration

Rovers in the Spacecraft Assembly Facility.

From left are Dr. Eric De Jong, principal

investigator of JPL's Visualization Lab;

astronauts John Young, Kevin Ford, Andrew

Feustel and Eric Boe; Dr. Andrea Donnellan,

deputy manager, Earth and Space Sciences

Division; and Tony Ganino, MER engineer.

ed backyard w/patio, \$1,400. 626/791-7081.

ALTADENA house, 5 min./JPL, charming 2/1 with family room, garage, laundry, fireplace, large yard, fruit trees, \$1,200. 626/791-7928.

GLENDALE, room in charming Spanish-style home, quiet, lovely residential area, ~15 min. from JPL, private ba., shared kitchen/washer/dryer, no smoking, no pets; \$525 incl. utilities. 545-0455.

LA CRESCENTA house, above Foothill, 2 bd., 1 ba., stove, hardwood floor, w/d hook-ups, \$1,595. 248-0190, Nita.

N. ALTADENA loft apt., city view, stove and refrigerator, off-street parking, priv. entrance; perfect for a single person; non-smoker, no pets; first, last and deposit required; \$550 includes utilities. 626/398-8844.

N. ALTADENA bachelor's apt., full kitchen and dining area, off-street parking, priv. entrance; single person required; non-smoker, no pets; first, last and deposit required; \$750 includes utilities. 626/398-8844.

PASADENA condo for lease, 1 ba., 1 ba., in centrally located development 1 mile from CIT, unfurn.; JPL owner; \$1,400. 626/449-0701, Teresa.

PASADENA, fully furn. townhome-style to share with 2 Caltech post docs; 3 bd., 3 ba., a/c, patio, laundry, near Caltech & JPL, \$625 including utilities. 626/351-9641.

PASADENA, spacious 2-story condo, 3 bd., 2.5 ba., prestigious community, beaut. inter., bright ktch., prof. landscape, ctrl. air & heat, close to shop., cozy l/r with f/p, end unit, frml. d/r, hdwd. flrs., immac. cond., close to schls, \$1,750. 626/396-9024.

PASADENA, delux large 2 bd., 1 1/2 ba., a/c, dishwasher, patio, good area, no pets, \$1,100. 626/358-6154.

PASADENA townhouse, 2 bd., 1.5 ba., on Michigan Av. nr. Caltech, washer/dryer inside, new dishwasher, tile floor, \$1,500. 626/379-3503.

PASADENA, charming duplex, lower level, hardwood floors, fireplace, 2 bd., 1 ba., nr. shopping & bus line, \$1,595 incl. util. 626/536-5592.

SIERRA MADRE townhouse-style apt. to share, 1,000 sq. ft. apt, lg. patio, 2 bd., 1.5 ba., quiet street, garage parking, washer and dryer for this unit, \$605 plus 1/2 util. 626/355-4838.

SUNLAND, fully furn. room in condo, share kitchen/bath/laundry; garage parking, a/c, fire-place, pool, spa, tennis court; 10 mi. to JPL; prefer male, non-smoking, no pets; \$450 + 1/2 util.; security deposit; references. 352-3112.

Real Estate

MT. WASHINGTON house (next to Glendale, Pasadena, Eagle Rock, Occidental College), 2,000 sq. ft., lg. custom 3 bd., 2 1/2 ba., 2-car gar., lots of storage, exc. elem. schools, 12 min. from JPL, cyn. view, quiet neighborhood, available summer 2003. 626/403-0446.

Vacation Rentals

BALBOA ISLAND, fully furnished 2 bd., 1 ba., patio, washer/dryer, parking, steps to bay, winter rates \$150/nite or \$875/week. 626/351-9641.

BIG BEAR LAKEFRONT, luxury townhome, 2 decks, tennis, pool/spa, beautiful master bd. suite, sleeps 6. 949/786-6548.

CAMBRIA, ocean front house, sleeps up to 4, exc. view. 248-8853.

HAWAII, Maui condo, NW coast, ocean front vw., 25 ft. fr. surf, 1 bd w/loft, compl. furn. phone, color TV, VCR, microwave, d/w, pool, priv. lanai, slps 4, laundry fac., low season rate \$105/nite/2, high season rate \$120/ nite/2, \$15/nite/add'l person. 949/348-8047, jackmandrandy@cox.net.

MAMMOTH, Snowcreek, 2 bd., 2 ba., + loft, slps. 6-8, fully equipped kitchen incl. microwave, D/W, cable TV, VCR, phone, balcony w/mtn. vw., Jaccz., sauna, streams, fishponds, close to Mammoth Creek, JPL disc. 626/798-9222 or 626/794-0455.

NEW SMYRNA BEACH, FL, condo, fully furn. 2 bd., 2 ba., fireplace, full kitchen; quiet, relaxing, beautiful beach setting, w/BBQ, pool, spa, game room, overlooking ocean; easy walk to restaurants, 1/2 hour to KSC; sleeps 6; avail. monthly. 909/981-7492, Darlene or dfhaug@yahoo.com.

OCEANSIDE condo, fully furn. 2 ba., 2 ba., fire-place, full kitchen; quiet, relaxing, beautiful beachside setting, w/BBQ, pool, spa, game rm, great ocean view; easy walk to pier and restaur-rants; sleeps 8; avail. weekly or monthly. 909/ 981-7492 or dfhaug@yahoo.com, Darlene.

OCEANSIDE, on the sand, walking 1 bd. condo, panoramic view, walk to pier & harbor, pool/spa, game rm., sleeps 4. 949/786-6548. ROSARITO BEACH condo, 2 bd., 2 ba., ocean view, pool, tennis, short walk to beach on priv. rd., 28-hole golf course 6 mi. away, priv. secure parking. 626/794-3906.